

## RESEARCH REPORT

# Cross sectional survey of perpetrators, victims, and witnesses of violence in Bogotá, Colombia

L F Duque, J Klevens, C Ramirez

*J Epidemiol Community Health* 2003;**57**:355–360

See end of article for authors' affiliations

Correspondence to:  
Dr L F Duque, Diagonal  
29D no 9Sur-90, Apt  
1007, Medellín,  
Colombia;  
lfduque@epm.net.co

Accepted for publication  
22 July 2002

**Objectives:** To establish the prevalence and distribution of witnesses, victims, and perpetrators of different types of violence in the general population and the proportion of victims consulting health services or reporting the incident to authorities.

**Methods:** Cross sectional survey of a random sample of 3007 inhabitants between the ages of 15 and 60 in the city of Bogotá, Colombia, in 1997, based on a face to face interview.

**Results:** Age adjusted past year prevalence of witnesses, victims, and perpetrators of physical aggression was 61%, 27%, and 27%, respectively, while lifetime prevalence of witnesses, victims, and perpetrators of assault with a weapon in this population reached 70%, 55%, and 5.8%. Between 11% and 67% of the victims consulted a health service and less than 32% reported the incident to an authority. Those involved in most types of physical violence tended to be young, male, from lower middle social classes, with some degree of secondary education, and single or divorced.

**Conclusions:** Prevalence of witnesses and victims of violence in this sample appears to be high, while perpetrators constitute a small proportion. Violence is not equally distributed throughout the population suggesting the possibility of identifying a population at higher risk for the development of intervention programmes.

Intentional injuries cause 2.7% of the number of years from premature death and disability in the world.<sup>1</sup> This burden is even greater among the poorer nations and is projected to increase. The increasing importance of violence as a cause of morbidity and mortality along with its great social and economic costs has led the World Health Assembly to adopt a resolution declaring it a worldwide public health problem.<sup>2</sup> To approach violence from a public health perspective, relevant epidemiological information must be collected as a basis for developing programmes for its prevention and control.

Colombia ranks as one of the most violent countries in the world with a rate of 96 homicides per 100 000.<sup>3</sup> In Colombia, violence is the leading cause of death and contributes to 25% of the burden of disease.<sup>4</sup> However, data on the magnitude and distribution of violence in Colombia are limited and based on mortality statistics, injuries treated by the health services, or police crime reports. These sources probably underestimate the real magnitude of the problem because of unreported events. In addition, because there are no standardised definitions and records, they might be subject to errors in recording, classification, and interpretation.

The purpose of this study was to establish the prevalence and distribution of witnesses, victims and perpetrators of different types of violence in the general population with standardised measurement techniques. The proportion of victims with injuries who utilised health services or reported the incident to authorities was also assessed to estimate the dimension of unreported incidents of violence and the characteristics of these events.

The study was carried out in Bogotá, the capital of Colombia. Although Bogotá with about six million inhabitants is not the most violent city in the country (it occupies the 15th place among Colombia's capital cities), its homicide rate (44 per 100 000 in 1998)<sup>5</sup> is still disturbingly high compared with international standards.

## METHODS

This cross sectional survey was carried out among a random sample of people between 15 and 60 years of age from the

non-institutionalised population in Bogotá. Based on the lowest expected prevalence rate (we expected this to be perpetration of serious violence estimated at 5%), we wanted at least 30 cases in the strata used for analyses (five strata in the case of age) to provide variation. This resulted in a total sample size of 3000. This sample size provides estimates with a 99% confidence intervals and an error of 0.01.

The sample selection was done in four stages: (1) Bogotá was divided into six geographical regions and a random sample of 200 census tracts was selected, with proportional allocation by population size in each of the six regions; (2) streets were selected randomly from within those tracts; (3) dwellings were listed and then selected randomly on each street; (4) once a person in the household was contacted in the dwelling selected, the interviewer asked for the number of male and female members in the household between the ages of 15 and 60 years and then selected one person with a previously specified random procedure. Because studies have shown that young men have higher rates of violence, we oversampled men between the ages of 15 and 34 to improve the precision of the estimates and conducted the analyses with weights. If the person selected was not at home at that time, the interviewer asked the family member contacted for a convenient day and hour to call or visit the selected person. The interviewer called as many times as necessary to reach the selected person and set an hour and day for the interview. He or she then visited the person's home at that time and up to two times after that if the person was not previously available. Eighty six per cent of those approached (n=3500) agreed to participate in the study for a sample size of 3007. However, participation rates were only 50% among the upper social class. The main reason for no participation was unavailability of the respondent when the interviewer arrived.

An inventory of different types of violence was developed based on existing measures.<sup>6-8</sup> Items exploring verbal or psychological violence were: making fun of; tricking, cheating or taking advantage of someone; insulting or humiliating; forcing someone to change residence or pay money; and threats of physical violence. Items for physical violence

**Table 1** Demographic characteristics of the sample compared with 1993 census for Bogotá

	Sample	Census
Age		
15-19	16.1	14.5
20-24	14.7	16.3
25-34	35.8	31.7
35-44	16.4	21.1
45-60	16.9	16.4
Marital status		
Single	40.9	39.1
Married	31.4	31.9
Common law	19.5	18.4
Separated or divorced	6.5	5.8
Widowed	1.7	3.9
Occupation		
Employed	51.4	51.6
Unemployed	4.1	2.9
Retired	2.7	1.9
Student	21.0	21.2
Housewife	19.4	17.8
Other		2.5
No information	1.4	2.1

included throwing objects; hitting or slapping; hitting with a belt, stick or rod; robbery; and assault with a weapon. Questions on sexual aggression were limited to having been forced/or forcing someone to have sexual relations or attempts to do so. For all items, we relied on the respondents' interpretation of whatever they considered included in the act mentioned to them.

The pool of items was revised by four experts for content validity and comprehensiveness. The measure was then pre-tested on a convenience sample and validated by the method of known groups. Only those items showing discriminant validity were included in the final questionnaire.

After informing respondents of the objectives of the study and the confidentiality of the information obtained, previously trained interviewers gathered information with a standardised questionnaire in a face to face interview on age, gender, social class (from one to six according to the category that appeared on their utilities bill), level of education, occupation,

and marital status. In addition to demographics, respondents were asked about having witnessed, been a victim or perpetrator of multiple incidents of violence in the past year starting with the mildest forms and ending with the most severe forms. An example of a question is: "During the past year, how many times did you see someone insulting or yelling at someone else?", "And how many times did someone do that to you?", "And how many times did you do that to someone else?". For the most severe forms of violence, lifetime prevalence was explored before establishing past year prevalence. The relationship between the victim and perpetrator was also established for the last event in the most severe types of violence. For victims, the occurrence of an injury as a result of the incident, the use of health services and the proportion reporting the incident to authorities were also explored. The questions on violence appeared towards the end of the questionnaire after more general items exploring family and personal characteristics so that interviewers had established an adequate level of rapport with respondents.

As violence is associated with age and age distributions differ among countries, age standardised rates were calculated using the world standard population truncated for the age group 15 to 60, to facilitate cross national comparisons.<sup>9</sup>

## RESULTS

Forty six per cent of the sample surveyed was male, 30.8% were between 15 and 24 years of age, and another 35.8% were between 25 and 34 years of age. Seventy eight per cent of the sample was classified as social class two or three (on a scale of one to six in which one is the lowest social class); 51% reported being employed while another 21% reported being a student. Fifty three per cent reported having less than a high school education. The characteristics of this sample as compared with estimates for the same year based on the most recent census data are shown in table 1. The sample is not significantly different in its distribution of gender, marital status, and occupation to the general population of Bogotá. Because of sampling procedures, there is a greater proportion of people between the ages of 15 and 24 year. However, rates reported have been age adjusted and the data were weighted to correct for the over sampling of young men in all the subsequent analyses.

In this sample, 96.2%, 85.8%, and 68.6% of the population reported witnessing, being a victim of or perpetrating some

**Table 2** Age adjusted prevalence per 100 (and 95% confidence intervals) of witnesses, victims, and perpetrators of different types of violence in the past year among persons aged 15 to 60 in Bogotá, Colombia, 1997

In the past year:	Prevalence per 100 (95% CI)		
	Witnesses	Victims	Perpetrators
Made fun of	65.2 (63.4 to 66.9)	42.9 (41.1 to 44.8)	32.6 (30.8 to 34.3)
Taken advantage of or tricked	40.2 (38.3 to 42.0)	25.6 (23.9 to 27.2)	6.8 (5.8 to 7.7)
Yelled at	76.9 (75.3 to 78.5)	50.7 (48.9 to 52.6)	45.9 (44.1 to 47.7)
Insulted or humiliated	55.7 (53.8 to 57.5)	31.4 (29.7 to 33.1)	16.6 (15.2 to 17.9)
Total verbal aggression	87.0 (85.7 to 88.3)	68.4 (66.6 to 70.1)	56.5 (54.6 to 58.3)
Threw object at	40.6 (38.8 to 42.4)	19.6 (18.2 to 21.0)	14.6 (13.3 to 15.9)
Hit or slapped	45.0 (43.2 to 46.9)	14.7 (13.4 to 16.0)	13.5 (12.2 to 14.8)
Hit with belt, stick or rod	35.5 (33.7 to 37.3)	9.0 (8.0 to 10.1)	11.1 (9.9 to 12.3)
Total mild physical aggression	60.7 (58.8 to 62.5)	27.2 (25.6 to 28.8)	26.9 (25.2 to 28.5)
Armed robbery	...	5.1 (4.2 to 5.9)	0.1 (0 to 0.1)
Injured with knife or broken bottle	...*	0.9 (0.6 to 1.2)	0.3 (0.1 to 0.5)
Shot	...*	0.6 (0.3 to 0.8)	0.1 (0.1 to 0.2)
Killed	...*	NA	0.0
Total assault with a weapon	...*	5.9 (5.0 to 6.8)	0.3 (0.1 to 0.5)
Attempted to force to have sex	...*	0.5 (0.2 to 0.7)	0.04 (0 to 0.1)
Forced to have sex	...*	0.1 (0 to 0.2)	0.0
Total sexual aggression	...*	0.5 (0.3 to 0.7)	0.04 (0 to 0.1)

\*No information collected.

**Table 3** Age adjusted lifetime prevalence per 100 (and 95% confidence intervals) of witnesses, victims, and perpetrators of different types of violence among persons aged 15 to 60 in Bogotá, Colombia, 1997

Has ever:	Prevalence per 100 (95% CI)		
	Witness	Victim	Perpetrator
Threats to hit or hurt	72.4 (70.7 to 74.0)	49.1 (47.2 to 50.9)	35.7 (33.9 to 37.5)
Demands or threats to obtain money	28.1 (26.4 to 29.8)	16.3 (14.9 to 17.7)	4.1 (3.4 to 4.8)
Threats to force to change residence	16.4 (15.1 to 17.8)	7.8 (6.7 to 8.8)	2.6 (2.0 to 3.2)
Threats to hit with belt, stick, or rod	59.2 (57.4 to 61.1)	35.7 (33.9 to 37.5)	24.0 (22.4 to 25.7)
Total verbal threats	80.2 (78.7 to 81.7)	59.4 (57.5 to 61.2)	41.0 (39.0 to 42.8)
Total stolen something of value	63.3 (61.5 to 65.2)	51.0 (49.1 to 52.9)	6.1 (5.2 to 6.9)
Armed robbery	40.1 (38.2 to 41.9)	21.7 (20.2 to 23.3)	0.2 (0.1 to 0.4)
Threats with knife, or broken bottle	45.8 (43.9 to 47.7)	17.6 (16.2 to 19.0)	3.3 (2.7 to 4.0)
Injured with knife or broken bottle	36.1 (34.3 to 37.9)	6.0 (5.1 to 6.9)	1.3 (0.8 to 1.7)
Threats with gun	26.3 (24.6 to 27.9)	8.2 (7.2 to 9.2)	2.1 (1.5 to 2.7)
Shot	23.9 (22.3 to 25.6)	3.3 (2.6 to 3.9)	1.5 (1.0 to 2.1)
Killed	14.2 (12.9 to 15.5)	*	0.1 (0.0 to 0.3)
Total assault with a weapon	70.1 (68.3 to 71.8)	55.0 (53.1 to 56.9)	5.8 (4.9 to 6.7)
Attempted to force to have sex	7.6 (6.7 to 8.6)	4.1 (3.4 to 4.9)	0.3 (0.1 to 0.5)
Forced to have sex	3.5 (2.8 to 4.2)	1.3 (0.9 to 1.7)	0.1 (0.0 to 0.3)
Total sexual aggression	8.7 (7.7 to 9.7)	4.6 (3.9 to 5.4)	0.3 (0.1 to 0.5)

\*Not applicable.

type of violence at some time in their life. Table 2 shows the age adjusted estimates (and 95% confidence intervals) of the prevalence of witnessing or being a victim or perpetrator of each type of violence explored in the past year. In general, the prevalence of different forms of violence in this population tends to occur as a gradient with the less severe forms being most frequent and the most severe forms being comparatively rare. In addition, witnessing violence is more frequent among this population than being a victim and being a victim more

frequent than being a perpetrator. The differences between having been a witness or victim compared with being a perpetrator of violence in the past year are greatest for the most severe forms (robbery, assault with a weapon, and sexual aggression).

Table 3 shows the age adjusted estimate (and 95% confidence intervals) for the lifetime prevalence of witnessing, or being a victim or perpetrator of different types of violence in this random sample. Again, prevalence is highest for the less

**Table 4** Prevalence of witnesses, victims, and perpetrators of different types of violence during the past year and over the lifetime by gender, age, and social class among persons aged 15 to 60 in Bogotá, Colombia, 1997

	Gender		Age			Social class				
	Male n=1395	Female n=1612	<25 n=926	25-40 n=1411	>40 n=670	1 n=159	2 n=1062	3 n=1293	4 n=403	5-6 n=90
<i>Past year prevalence of</i>										
<i>Verbal</i>										
Witness	89.1	87.8	91.9	89.7	80.6	73.9	88.6	91.0	90.4	64.9
Victim	73.0	68.6	78.3	72.1	57.2	64.0	73.2	71.0	69.5	52.9
Perpetrator	62.6	54.9	65.4	60.0	45.6	38.2	56.7	63.5	59.5	37.5
<i>Mild physical</i>										
Witness	66.5	58.6	73.0	60.7	50.8	39.5	66.2	66.2	56.5	25.7
Victim	33.2	25.4	38.7	28.3	17.3	25.6	31.8	29.3	27.3	6.7
Perpetrator	28.9	26.5	32.6	26.7	22.7	24.2	30.4	27.3	26.3	11.5
<i>Assault</i>										
Victim	8.3	3.8	5.7	6.0	5.9	11.8	7.8	3.9	6.1	0.4
Perpetrator	3.8	0.1	0.2	0.3	0.4	0.0	0.4	0.2	0.4	0.0
<i>Sexual</i>										
Victim	0.5	0.8	1.3	0.4	0.0	2.5	0.8	0.3	0.2	0.0
Perpetrator	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0
<i>Lifetime prevalence</i>										
<i>Theft</i>										
Witness	66.8	61.9	68.5	64.7	57.1	40.5	61.1	67.4	71.0	65.5
Victim	51.9	49.6	49.7	50.9	51.4	31.7	47.8	52.4	58.0	60.5
Perpetrator	8.4	4.5	8.2	5.8	4.5	0.5	7.3	6.6	5.7	3.1
<i>Assault</i>										
Witness	80.0	63.6	73.8	72.3	65.1	64.0	72.8	70.5	74.1	61.0
Victim	64.9	48.3	57.9	57.1	51.0	48.6	55.3	57.9	56.7	47.4
Perpetrator	9.1	2.8	4.4	6.6	5.8	3.5	5.4	4.8	10.5	5.8
<i>Sexual</i>										
Witness	9.3	9.2	9.4	11.4	4.6	12.9	8.6	8.7	12.4	5.1
Victim	1.4	8.6	5.9	6.4	2.2	16.0	5.3	3.6	6.8	2.9
Perpetrator	0.8	0.1	0.2	0.7	0.2	0.0	0.2	0.4	1.4	1.2

**Table 5** Prevalence of witnesses, victims, and perpetrators of different types of violence during the past year and over the lifetime by level of education, marital status, and employment among persons aged 15 to 60 in Bogotá, Colombia, 1997

	Years of education			Marital status			Employment status		
	<6 n=259	6-10 n=1338	11† n=1410	Married n=1531	Single* n=1425	Widowed n=51	No n=123	Yes† n=2177	Retired n=81
<i>Past year prevalence of</i>									
<i>Verbal</i>									
Witness	77.5	91.0	91.1	85.9	91.4	79.8	85.9	88.7	75.2
Victim	59.8	74.6	72.4	65.5	76.7	56.9	77.2	70.5	60.4
Perpetrator	45.9	60.6	62.2	53.6	64.0	47.2	59.0	58.6	44.7
<i>Mild physical</i>									
Witness	49.3	69.7	62.4	56.2	68.5	69.9	61.7	62.5	48.1
Victim	27.2	33.9	26.4	24.3	34.0	33.1	32.6	29.1	27.8
Perpetrator	25.3	33.7	24.3	25.9	29.3	32.5	31.2	27.7	22.7
<i>Assault</i>									
Victim	5.0	6.4	5.9	5.2	6.8	2.6	4.8	6.0	2.6
Perpetrator	0.4	0.2	0.3	0.3	0.2	1.6	0.5	0.3	0.0
<i>Sexual</i>									
Victim	0.2	1.0	0.5	0.3	1.0	0.0	3.6	0.5	0.0
Perpetrator	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0
<i>Lifetime prevalence</i>									
<i>Theft</i>									
Witness	50.8	64.2	69.8	60.1	68.7	59.5	53.4	64.6	69.4
Victim	42.0	51.3	53.9	49.0	52.4	55.3	46.2	50.8	61.4
Perpetrator	6.2	6.9	5.9	5.7	7.1	2.5	7.2	6.0	13.7
<i>Assault</i>									
Witness	59.6	74.8	73.4	69.6	73.2	59.5	81.5	70.7	73.3
Victim	49.6	57.7	57.6	52.8	59.6	51.6	53.5	56.4	51.0
Perpetrator	5.3	4.5	6.8	6.2	5.1	8.6	5.1	5.5	14.8
<i>Sexual</i>									
Witness	7.4	9.8	9.6	9.0	9.7	4.8	8.9	9.5	4.8
Victim	4.8	6.1	4.9	4.8	5.9	3.2	7.0	5.4	0.0
Perpetrator	0.4	0.2	0.6	0.1	0.7	0.7	0.3	0.5	0.0

\*Includes divorced or separated; †includes students and housewives.

severe forms of violence and lowest for the most severe forms. Similarly, witnessing violence is much more frequent than being a victim and there are far less perpetrators than victims. The differences are greatest for the most severe forms of violence. While there are two perpetrators for every three victims of the milder forms of violence there are 10 victims for each perpetrator for the more severe forms.

Table 4 shows the prevalence rates of witnesses, victims, perpetrators of violence by age, gender, and social class. In general, men reported significantly higher rates of involvement in violence except for witnessing verbal or sexual aggression and perpetrating mild physical aggression while women reported higher victimisation rates for sexual aggression. The highest gender proportional difference is observed in assault with a weapon: 38 times more among men than among women during past year. Younger subjects reported significantly more involvement in all types of violence except for assault with a weapon (as victims and perpetrators) in the past year and lifetime prevalence of being a victim of theft or a perpetrator of assault with a weapon or sexual aggression.

The lowest and highest social classes (1 and 5-6 respectively) tended to have the lowest rates of all types of violence with some exceptions. Those in the highest social class reported the highest rates of theft victimisation and witnessing during their lifetime while the lowest social class reported the highest lifetime rates of sexual victimisation as well as assault victimisation with a weapon in the past year.

Violence rates also varied by level of education and marital status (see table 5). Those with the lowest level of education or married tended to have lower rates of involvement in violence. On the other hand, being unemployed was not consistently associated with higher rates of violence.

Table 6 presents the proportion of victims of the most severe events who sustained injuries, consulted a physician or health service or reported the incident to authorities. Violence producing injury was highest for victims of assault with a knife and lowest for victims of armed robbery. Between 5% and 31% of the victims reported the incident to authorities. Of those injured, between 56% and 79% consulted a physician or health service for that injury.

**Table 6** Proportion of victims injured, utilising health services (in the total population and among those injured) or reporting incident to authorities among persons 15 to 60 in Bogotá, Colombia, 1997

Was a victim of	% injured	% of victims who consulted	% of injured who consulted	% reported to authorities
Armed robbery	18.7	11.4	61.3	4.9
Assault with knife	90.2	67.0	74.4	28.6
Assault with firearm	38.9	30.3	78.9	31.5
Attempted rape	26.0	16.7	74.2	15.8
Rape	65.7	36.6	55.6	30.8

### Key points

- While witnessing or being a victim of violence is widespread in this Bogotá, Colombia, sample, perpetration of violence seems to be limited to a small sector of the population.
- Involvement in violence is not randomly distributed throughout the population suggesting that there are groups at higher risk that could be targeted for intervention.

The relationship between victims and perpetrators was established for the last event. Victims reported that strangers had been the perpetrators for almost all the incidents of theft and around half the incidents of assault with a weapon. Friends or acquaintances were reported to be the perpetrators of 42% of the assaults with knives and 32% of the assaults with firearms. They were also reported to be the perpetrators of sexual aggression in 42% of the cases of attempted rape and 28% of the cases of rape. On the other hand, family members were reported to be the perpetrators of sexual aggression in about 32% of the cases. Perpetrators also reported that strangers were the main victims of robbery, assault with a weapon and homicide followed by friends or acquaintances. However, in the case of sexual aggression, they reported that their victims had almost always been their spouse or partner.

### DISCUSSION

The findings from this cross sectional survey of violence among a large random sample of the general population between the ages of 15 and 60 in Bogotá, Colombia show that almost everybody has been a witness of some type of violence while about 86% have been victims and 68% have been perpetrators. In general, verbal and mild physical aggression are frequent while theft, assault and sexual aggression are comparatively rare in the general population. Young men from the lower middle social class, with some degree of secondary education, and single or divorced tend to be involved in most types of violence but women reported higher rates of sexual victimisation and similar rates to male rates for involvement in verbal and mild physical violence.

Before discussing the results of this survey in Bogotá and its possible implications, various methodological limitations must be acknowledged. Firstly, the results are based on retrospective self reports obtained in a household interview and thus are subject to problems of recall (especially lifetime prevalence) and social desirability. Moreover, respondents reported on their own experiences as targets before reporting their experiences as aggressors, which may have predisposed them to underestimate their own aggressiveness. Consequently, even though research suggests that self reported victimisation and offending are better estimates of their real magnitude,<sup>10-11</sup> the rates presented here may still be an underestimate, especially for the less severe forms of violence.

The results may also be biased by the possible differences between participants and non-participants. Although the participation rate was acceptable for a survey of this sort (86%), it was much lower among the higher social classes and we lack other information that could help us establish the possible effects this might have had on the results. In addition, as we excluded the incarcerated and other institutionalised populations as well as those without dwellings, the results may not apply to these special groups. Unfortunately, we lack information on the sizes of these excluded population groups, some with expectedly high rates of violence (for example, prisoners and homeless) and others with very low rates (such as convents) and so cannot provide an estimate of the impact their exclusion could have had on the data.

Despite these and other limitations, the main strengths of this study are that it provides population based estimates of

involvement in violence in a non-English speaking less developed country, and that it presents data on perpetrators. To facilitate comparisons across countries, these rates have been adjusted for age and calculated for specific acts of violence.

There are comparatively few prevalence studies of violence based on random samples of the general population in the published literature and most focus on victimisation. In comparing our data to other similar studies, caution must be observed as prevalence rates may vary because of characteristics of the sample, data collection methods, and the type, context and time frame of questions used. With this cautionary note in mind, we will compare our data to similar studies found in the published literature.

One of the few studies to establish the prevalence of witnesses of violence among a large random sample was a study of Canadians 20 years and older in the city of Thunder Bay, Ontario.<sup>12</sup> In this Canadian sample 34% had been witnesses of some form of physical aggression in the past year which is about half of what we found in Bogotá, even though the Canadian questionnaire included various forms of aggression such as punching, kicking, grabbing, pushing or shoving which were not explored in our sample. While only 1.1%, 3.4%, and 1.4% of the Canadian sample reported having seen someone throw an object, hit or slap someone, or hit someone with an object, respectively, the Bogotá sample reported 19.6%, 14.7%, and 9.0% for these same acts of violence.

There are several population based prevalence studies on victimisation. The United Nations Interregional Crime and Justice Research Institute has conducted a survey of criminal victimisation based on random samples of the populations in major cities in various developing countries, including three countries in Latin America.<sup>13</sup> They report past year and past five year prevalence of burglary, robbery, personal theft, assault (including threats with and without arms), and sexual incidents. Among these, perhaps the most comparable categories to our data are assault and sexual incidents in the past year. While 1.5% and 0.3% of our sample reported having been assaulted with an arm or forced (or tried to force) to have sex respectively, the rates for the 13 cities surveyed in the United Nations study varied between 1.1% and 10.3% for assault and 0.6 and 11.8 for sexual incidents. Compared with the United States, being a victim of assault is about 1.4 times more frequent in Bogotá, of theft is eight times more frequent, and sexual assault is three times more frequent than the rates reported in the National Crime Victimization Survey<sup>14</sup> although this survey is limited to victimisation in the past six months and the questions and categories may not be fully comparable. Our rates for being a victim of armed robbery and injuries with a knife or gun are also within the ranges reported by another study on victimisation, which was carried out by the Pan American Health Organization (the ACTIVA study) in seven cities of Latin America and Madrid.<sup>15</sup> However, compared with these same cities, being a victim of mild physical aggression is about twice as likely in Bogotá.

According to our findings, between 5% and 31% of the victims actually report most incidents to authorities. Although similar rates of underreporting are found in the developing countries surveyed by the United Nations' study,<sup>13</sup> in these countries sexual incidents appear to be the least reported while in Bogotá, being a victim of armed robbery was the least reported. Far more events come to the attention of health care providers, especially when victims have been injured, they range between 55% for rape and 75% for assault with a firearm incidents. Further research is needed to identify the factors associated with the differential reporting and use of services to better understand the populations being served and the barriers to these services.

The ACTIVA study carried out by the Pan American Health Organization also explored perpetration of violence towards children, intimate partners and non-family members.<sup>16</sup> Among the questions in the study, one explored the frequency

of hitting a partner or a child with an object, a question similar to one in our study. In the ACTIVA study, prevalence rates in the seven cities ranged from 0% to 7.1% for hitting a partner with an object in the past year, while hitting a child with an object varied between 0.9% and 13.3% among men and 4.4% to 26.9% among women. The highest rates in all types of violence in the ACTIVA study were reported in Cali, another Colombian city. In our sample, almost 12% reported hitting someone (we did not differentiate whom) with an object with no difference between sexes. We suspect that our rate for this question is underestimated as we did not specifically explore this behaviour in the context of domestic violence.

To a similar question posed in the 1990 National Alcohol Survey for a large random sample of persons 18 and over in the continental United States, 10.1% reported that they had "hit someone with an object, beat someone up or attacked someone" since they were 12 years of age.<sup>17</sup> This rate is a bit lower than ours even though we only explored this behaviour in the past year and their measure includes other types of violence among an older sample. However, this study also reports a rate of 0.3% for sexual aggression, which is similar to the rate found in our sample.

Rates for assault with a weapon tend to be lower in the United States compared with our sample. The Epidemiologic Catchment Area Survey reports that 1.1% of their large random sample from three cities "have ever used a weapon like a stick, knife or gun in a fight since the age of eighteen"<sup>18</sup> and the National Household Survey on Drug Abuse, which used a self administered questionnaire, reports that 0.3% of their large random sample have used a gun in the past year.<sup>19</sup>

In this study, the prevalence of perpetrators was especially small compared with witnesses and victims for the most serious types of violence. This is consistent with the evidence from various longitudinal studies showing that serious offending and aggression are in fact limited to less than 10% of the population.<sup>20</sup> The findings also show that violence is not equally distributed throughout the population and instead was significantly associated with place of residence, social class, gender, occupation, level of education, and marital status. In general, those involved in most types of physical violence (witnesses, victims, and perpetrators) tended to be young, male, from lower middle social classes, with some degree of secondary education, single, or divorced. Sexual aggression, on the other hand, did not show many differences in its distribution in the population except for its greater number of female victims from the lowest social classes and the greater number of male perpetrators. Both these findings tend to be consistent with data from other countries.

The descriptive data in this report show that violence is not a random event but instead is concentrated in certain segments of the population. Policy and programme developers to target these high risk groups for their prevention and treatment priorities should use this information. This is especially important in the case of perpetrators of violence. Considering that they seem to be a very small proportion of the total population, the identification of high risk offenders groups is desirable to orient violence control and prevention interventions. Violence prevention and control policies and programmes could be better targeted if developing countries have more data on aggressors. A better understanding of the social, cultural, and familial factors that underlie this differential distribution will help in the design of appropriate preventive programmes.

The information from surveys such as this one may serve as a baseline estimate of violence and facilitate future analyses of time trends or evaluation of interventions.

#### Authors' affiliations

**L F Duque**, School of Public Health, University of Antioquia, Medellín, Bogotá

**J Klevens**, ASSALUD, Bogotá and Programa de Convivencia Ciudadana, Medellín, Bogotá

**C Ramirez**, School of Psychology, Universidad San Buenaventura, Bogotá

Funding: this study was supported by Colciencias and the Asociación Colombiana para la Salud (ASSALUD), Colombia.

Conflicts of interest: none.

#### REFERENCES

- Murray CJ**, Lopez AD, eds. *The global burden of disease*. Cambridge, MA: Harvard University Press, 1996:374.
- World Health Assembly**. *Prevention of violence: public health priority*. Geneva: WHO, 1996.
- Pan American Health Organization**. *Health conditions in the Americas*. Washington, DC: PAHO, 1998. (Scientific publication no 569, vol 1).
- Ministerio de Salud**, Colombia. *La carga de la enfermedad en Colombia* [The burden of disease in Colombia]. Bogotá: Ministerio de Salud, 1994.
- Instituto Nacional de Medicina Legal y Ciencias Forenses**, Colombia. *Forensis, 1999*. Panamericana, Bogotá: Instituto Nacional de Medicina Legal y Ciencias Forenses, 2000.
- Strauss MA**. Measuring intrafamily conflict and violence: the Conflict Tactic Scales. In: Strauss MA, Gelles RJ, eds. *Physical violence in American families: risk factors and adaptations to violence in 8145 families*. New Brunswick, NJ: Transaction Publications, 1990.
- Buss AH**. *The psychology of aggression*. New York: Wiley, 1961:171-3.
- Fournier M**, de los Ríos R, Orpinas P, et al. Multicenter study: cultural norms and attitudes toward violence in selected cities of Latin America and Spain (ACTIVA project). *Rev Panam Salud Publica* 1999;5:222-31.
- World Health Organization**. *World Health Statistics Annual*. Geneva: WHO, 1996:XXVI.
- Hilton NZ**, Harris GT, Rice ME. On the validity and reliability of self-reported rates of interpersonal violence. *Journal of Interpersonal Violence* 1998;13:58-72.
- Huizinga D**, Elliot DS. Reassessing the reliability and validity of self-report delinquency measures. *Journal of Quantitative Criminology* 1986;2:293-327.
- Pernanon**, K. *Alcohol in human violence*. New York: Guilford Press, 1991.
- Zvekic U**, del Fate AA, eds. *Criminal victimisation in the developing world*. Rome: United Nations Interregional Crime and Justice Research Institute Publication no 55, 1995.
- Office of Justice Programs**. *Criminal victimization in the United States*. Washington, DC: OJP, 1994.
- Cruz JM**. La victimización por violencia urbana: niveles y factores asociados en ciudades de América Latina y España. [Being a victim of urban violence: its likelihood and its associated variables on cities of Latin America and Spain]. *Rev Panam Salud Publica* 1999;5:259-67.
- Orpinas P**. Who is violent?: factors associated with aggressive behaviors in Latin America and Spain. *Rev Panam Salud Publica* 1999;5:232-44.
- Greenfield TK**, Weisner, C. Drinking problems and self-reported criminal behavior, arrests, and convictions: 1990 US alcohol and 1989 County surveys. *Addictions* 1995;90:361-73.
- Swanson JW**, Holzer CE, Ganju VK, et al. Violence and psychiatric disorder in the community: evidence from the epidemiologic catchment area surveys. *Hospital and Community Psychiatry* 1990;7:761-70.
- Harrison L**, Gfroerer J. The intersection of drug use and criminal behavior. Results from the national household survey on drug abuse. *Crime and Delinquency* 1992;38:422-43.
- Tolan**, PH, Gorman-Smith, D. Development of serious and violent offending careers. In: Loeber R, Farrington DP, eds. *Serious and violent juvenile offenders. Risk factors and successful interventions*. Thousand Oaks, CA: Sage, 1998:72.